

Translation

PATENT COOPERATION TREATY

PCT/EP2003/012690



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference Az. 3462	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/012690	International filing date (day/month/year) 13 November 2003 (13.11.2003)	Priority date (day/month/year) 26 November 2002 (26.11.2002)
International Patent Classification (IPC) or national classification and IPC H01L 23/544		
Applicant MATTSON THERMAL PRODUCTS GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 23 June 2004 (23.06.2004)	Date of completion of this report 04 March 2005 (04.03.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/EP2003/012690

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages 1-21, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages 1-12, filed with the letter of 09 February 2005 (09.02.2005)
- ☒ the drawings:
 pages 1/4-4/4, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

The amendments submitted with the letter of 9 February 2005 introduce substantive matter which, contrary to PCT Article 34(2)(b), goes beyond the disclosure in the international application as filed. The amendments are as follows:

coating the wafer in order to obtain an additional optical property, in particular a predetermined reflectivity.

The original claim 11 is cited as a basis for this feature. However, the original claim 11 reads: "method according to one of the preceding claims, characterized in that the wafer is additionally coated in order to obtain the optical property".

Thus, according to the original claim 11, **the** optical property is obtained as a result of the coating and not an additional optical property.

The relevant passage in the description (page 8, lines 22-27) also only mentions obtaining **the** optical property, but not an **additional** optical property.

Although the original claim 11 reads "method according to one of the preceding claims", claim 10 (which, in turn, reads "method according to one of the preceding claims") states that the reflectivity is adjusted to a value from a preferred range of values, and claim 9 states that the emissivity and reflectivity are each adjusted to a value from a preferred range of values; thus claims 9 and 10 make only the general statement that the emissivity and reflectivity are each adjusted to a value from a preferred range of values. These claims do not, however,

I. Basis of the report

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mention how the two optical properties are obtained. It would therefore also be possible, according to the wording of claims 1, 9, 10 and 11, that an additional optical property could be obtained by the wafer thickness or some other suitable parameter being appropriately selected.

The amended claim 1, however, makes a more specific statement relative to the statements of claims 1, 9, 10 and 11: according to claim 1, the emissivity of the calibration wafer is adjusted "by doping with foreign atoms and/or by creating lattice defects", whereas an additional optical property is obtained by coating the wafer.

Since a passage that directly and clearly discloses the specific statement of claim 1 that an **additional** optical property is obtained by coating the wafer also could not be found in the description, the amended claim introduces substantive matter which goes beyond the disclosure in the international application as filed.

This report will therefore be established without taking this amendment into account (PCT Rule 70.2(c)), meaning that the wording of the original claim 11 will be used: "the wafer is additionally coated in order to obtain the optical property (i.e. the emissivity)".

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 03/12690

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1	NO
Industrial applicability (IA)	Claims	1	YES
	Claims		NO

2. Citations and explanations

This report makes reference to the following document:

D1: DE-A-3 803 336

The present application fails to meet the requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step within the meaning of PCT Article 33(3).

D1 discloses (the references in parentheses are to D1):

a method of producing a calibration wafer (1) that has at least one predetermined emissivity (the known wafer has one predetermined emissivity), said method having the following steps:

provision of a wafer (1) of a semiconductor material;
processing of the wafer material to obtain the predetermined emissivity (in D1, this step is carried out to obtain a predetermined reflectivity, which, however, also leads to a wafer with a predetermined emissivity; furthermore, carrying out a step known from the prior art merely for another purpose does not make the production method novel because the step known from the prior art and the method step from the claim are identical) by doping with foreign atoms and by creating lattice defects (in D1,

foreign atoms (arsenic) are introduced into the water by means of ion implantation, which leads to lattice defects).

Thus the subject matter of claim 1 differs from the known method in that the wafer is additionally coated in order to obtain the optical property.

The problem to be solved by the present invention can therefore be considered that of obtaining the emissivity in two different ways (processing the wafer material and coating the surface).

The solution proposed in claim 1 of the present application cannot be considered inventive for the following reasons (PCT Article 33(3)):

D1 describes in its second embodiment (column 3, lines 56-61 and figure 6) the same advantages for the distinguishing feature as does the present application. A person skilled in the art would therefore consider the incorporation of this feature in the first embodiment described in D1 as a conventional measure for solving the stated problem.